Drivers of trophoblast stem/progenitor cell identity in human placenta

Grant Award Details

Drivers of trophoblast stem/progenitor cell identity in human placenta

Grant Type: Foundation - Discovery Stage Research Projects

Grant Number: DISC0-13757

Project Objective: To elucidate trophoblast stem/progenitor cell-specific transcriptional networks in early human placenta, to serve as a basis for studying the molecular underpinnings of placental defects and for validating and optimizing in vitro human placenta models.

Investigator:

Name:	Francesca Soncin
Institution:	University of California, San Diego
Type:	PI

Disease Focus: Fertility, Genetic Disorder

Human Stem Cell Use: Adult Stem Cell, Embryonic Stem Cell, iPS Cell

Award Value: $993,881

Status: Active

Grant Application Details

Application Title: Drivers of trophoblast stem/progenitor cell identity in human placenta

Public Abstract:

Research Objective

This proposal will elucidate the mechanisms that identify a stem/progenitor cell population in the human placenta.

Impact

This proposal addresses our current knowledge gap on human placental development related to formation of the maternal/fetal interface during pregnancy, and placenta-associated pregnancy complications.

Major Proposed Activities

- Identification of DNA regions, called enhancers, regulating placenta stem/progenitor cell-specific identity
- Identification of novel proteins regulating placental stem/progenitor cell-specific identity
- Construction of a reference for human placenta stem/progenitor cells in uncomplicated pregnancies
- Identification of abnormal mechanisms in placental stem/progenitor cells affected by Trisomy 21

Statement of Benefit to California:

California has a significant racial/ethnic diversity, with 14.5% Asian and 5.8% Black or African American. Racial/ethnic minority groups are at higher risk of pregnancy complications due to placental defects. This proposal will result in the development of strategies for prevention, detection, and intervention for various placental disorders, decrease pregnancy loss, and improve pregnancy outcomes, with impact on the physical/mental well-being as well as economy across Californian citizens.
